

matters raised by the Examiner at pages 2-4 of the Office action are addressed through the submission of a substitute specification.

Hence, in accordance with filing a substitute specification pursuant to Rule 1.125(a), a substitute specification is attached hereto as Exhibit 1.

IN THE CLAIMS

Please cancel non-elected claims 30-40.

REMARKS

Prior to discussion of the amendments presented to the specification, note is made that the Examiner found claims 1-29 allowable over the prior art. (See Paper No. 9, at p. 5). Thus, upon entry and approval of the requested substitute specification and consideration of the additional remarks presented below, it respectfully is submitted that the Examiner will find that the application is in condition for allowance.

In addition, note is made that applicants' claim for priority under 35 USC § 119(e) has not been formally acknowledged by the Examiner at Box 14 of Paper No. 9, page 1. (See Exhibit 2, p. 2). Thus, it respectfully is requested that the Examiner formally acknowledge the claim to benefit under § 119(e) in the next Office action.

As the Examiner will note, the substitute specification corrects informalities cited by the Examiner. (Paper No. 9 at 2 *et seq.*). In addition to place the application in better form, other informalities, such as typographical, editorial, and grammatical errors, have also been corrected by the substitute specification.

In this regard, the Examiner objected to the specification for "minor informalities" (*Id.* at page 2, line 5 to page 3, line 2), objected to the specification under 35 USC § 112, first paragraph (*Id.* at page 3, lines 3-12), and objected to the specification under 37 CFR § 1.52(b) for want of "the margin requirements" (*Id.* at page 3, line 13 to page 4, line 5). As the Examiner will note, the "minor informalities" and "margin requirements" identified by the Examiner have been addressed in the substitute specification, and in view of the same, the objections have been rendered moot and withdrawal of the objections are requested.

The substitute specification at page 14, lines 15-16 has also been changed to read "generally 4, 6 to 12, preferably 6 to 8." Support for this amendment can be found in the specification as filed at, for example, page 13, lines 5-6. The Examiner has also indicated that the "[a]pplicant] has support for 4, 6 to 8, and 6 to 12 cycles per day." (*Id.* at page 3, lines 3-12). Thus, the Examiner's objection to the specification for describing the number of dosing cycles per day as "generally 4, 8 to 6, preferably 6 to 12" has been rendered moot, and reconsideration and withdrawal of the objection also respectfully is requested.

Regarding the Examiner's comment concerning the "effect" of the phrases "consist of" and "may consist essentially of" in the specification as filed, while not being necessary in the specification, such phrases were merely included to provide markush-type phraseology in the specification for purposes of consistency if the applicants desired to employ such phraseology in claims.

In addition, some of the subject matter of cancelled original claims 30-40 has also been incorporated into the substitute specification. For example, the

substitute specification, at p. 12, para. 0033, lines 9-16, has been amended to state, in relevant part, that "[t]he controller may include a programmable memory and an actuator" and that "[t]he controller is also in communication with the nutrient and water pumping means wherein the actuator activates the nutrient and water pumping means according to a predetermined schedule stored in the programmable memory of the controller." Support for this disclosure can be found in original claim 32. *See In re Gardner*, 177 USPQ 396, 397 (CCPA 1973) (original claims constitute their own description) and MPEP §§ 608.01(o) and (l).

The substitute specification, at p. 12, para. 0033, lines 11-14, also discloses, in relevant part, that "[t]he controller is in communication with the solenoid and the nutrient pumping means wherein the actuator activates the solenoid and nutrient pumping means according to a predetermined schedule stored in the programmable memory of the controller." Support for this disclosure can be found in original claim 35. *See, again, Gardner* and MPEP §§ 608.01(o) and (l).

The substitute specification, at p. 13, para. 0034, lines 11-13, further discloses, in relevant part, that "[t]he potable water reservoir is in fluid communication with the water supply and the bioreactor wherein water enters the reservoir and flows to the bioreactor once a predetermined level is reached." Support for this disclosure can be found in original claim 34. *See, again, Gardner* and MPEP §§ 608.01(o) and (l).

The substitute specification, at p. 17, para. 0043, lines 12-18, further discloses, in relevant part, "about 3 to about 11 weight % of vegetable oil, such as about 3 to about 10 weight % of vegetable oil, and preferably about 9 to about 11

weight % of vegetable oil.” Support for this disclosure can be found in original claim 39. *See, again, Gardner and MPEP §§ 608.01(o) and (l).*

The substitute specification, at p. 17, para. 0044, line 23 to p. 18, line 1, also discloses, in relevant part, that “the pH is brought to about 8 to about 12, such as about 8 to about 10, or preferably about 10 to about 12.” Support for this disclosure can be found in original claim 38. *See, again, Gardner and MPEP §§ 608.01(o) and (l).*

Further, the substitute specification, at p. 12, para. 0033, lines 23 to p. 13, line 1, discloses, in relevant part, that “[p]referably, the nutrient pumping means and the water pumping means is a pneumatic pump.” Support for this disclosure can be found in original claims 9 and 10. *See, again, Gardner and MPEP §§ 608.01(o) and (l).*

The substitute specification, at p. 9, para. 0026, line 22 to p.10, line 6; p. 15, para. 0038, line 12; and p. 22, para. 0059, line 5, further discloses “bacterial composition” instead of “bacteria consortia” or “bacteria consortium.” Support for these editorial changes can be found in the substitute specification, at, for example, p. 11, para. 0030, line 11.

The substitute specification further corrects minor grammatical and typographical errors. For example, the substitute specification, at p. 5, para. 0016, line 1, replaces “in to” with “into” and at line 2, the second “Pappas, et al.” has been removed. At p. 6, para. 0018, line 9, “, et al” has been removed. At p. 13, para. 0034, line 17, the second “may” has been removed. At p. 14, para. 0036, line 16, the Arabic “2” has been changed to read “two.” At p. 17, para. 0043, line 15, the typo “NEcitrate” has been amended to read “NHcitrate” and at line 16, the typographical error

"simetblycone" has been changed to "simethlycone." At p. 17, para. 0044, line 23, "is" has been changed to "are." At p. 18, para. 0045, line 10, the periodic table abbreviation "Mn" has been changed to read "manganese."

It is submitted that no new matter has been added by the foregoing amendments to the specification. Hence, entry and approval of the same respectfully are solicited.

Rejections:

Claims 1 - 29 were rejected under 35 USC § 112, first paragraph, second paragraph, and sixth paragraph. (Paper No. 9 at 4, lines 12-15).

In making the rejections, the Examiner stated that "[w]hen claims 1 and 16 are read in light of the doctrine of claim differentiation and claims 7 and 22, respectively, it is clear that the applicants intend for the recited 'nutrient pumping means for pumping' to cover mechanisms for delivering inorganic/organic powders from a hopper into the bioreactor vessel." (*Id.* at 4, lines 15-19).

The Examiner then contended that "[a]pplicant has not described structure for performing this 'powder pumping' function. Applicant has not satisfied §112, 6th, by providing a recital of structure capable of performing the pumping function in the case of a powder inorganic / organic nutrient mixture." (*Id.* at 4, lines 19-20 to page 5, lines 1-2).

Initially, as is fundamental, for a "means" claim to comply with § 112, ¶¶ 2 and 6, all that is required is that the specification contain some description, whether by words or drawings, of a structure that corresponds to the "means." See, e.g., *Creo*

Prods. v. Presstek, Inc., 305 F.3d 1337, 1347-48, 64 USPQ2d 1385, 1391-92 (Fed. Cir. 2002).

Contrary to the Examiner's argument, original claims 9 and 24 clearly describe that "the nutrient pumping means ... ***is a pneumatic pump.***" That description has been incorporated into the substitute specification at p. 12, para. 0033, line 23 to p. 13, line 1. See *In re Gardner*, 177 USPQ 396, 397 (CCPA 1973) (original claims constitute their own description) and MPEP §§ 608.01(o) and (l). The specification, as filed, also clearly describes the structure(s) for a "nutrient pumping means for pumping" as, for example, the applicants state "[t]he types and numbers of pumps are not critical. For instance, a pump may be positioned to operate each input into the bioreactor, e.g. from water reservoir, nutrient container and atmosphere *The pump may be a single multi-chambered pump or other appropriate pumping mechanism known in the art.*" (See the specification as filed, at page 11, lines 16-19).

Thus, the specification clearly identifies the "means" as a pump. *Id.* Preferably, it is a pneumatic pump. (See substitute specification at p. 12, para. 0033, line 23 to p. 13, line 1). Thus, one would be able to determine the meets and bounds of the claims and equivalents thereof.

Thus, in view of the foregoing, it is submitted that the specification does describe a structure corresponding to "the nutrient pumping means." Hence, withdrawal of the rejections respectfully are requested.

For the reasons set forth above, entry of the amendments to the specification, withdrawal of the rejections, and allowance of the claims is respectfully

requested. If the Examiner has any questions regarding this paper, please contact the undersigned.

Respectfully submitted,

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